

Work Order ID 119987

June-02-14 10:35:58 AM

\*119987\*

Page 1

Item ID: D212-664-207

Accept

\*N9000040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Aft Crosstube - Low Standard

Start Date: 6/02/14 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 6/02/14 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: MJS

Date: 14-06-02

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start \*NR1\*

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D212-664-247	C

100	Document Control	0.00							
*100*	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile and create labels as per PPP D212-664-207 CHG003								

DAS  
31  
9-89

1 14-07-01

110	Pick Kit	0.00							
*110*	Packaging								
Packaging	Memo	0.00							
Packaging									

14-06-06

120	BENDING MACHINE - CROSSTUBES	0.00							
*120*									
CNC Bend 2	Memo	0.00							
CNC Alpha 160 Bender	Bend tube as per Dwg D212-664-247 using CNC bender program and Folio FT								

14-06-08

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--

# Work Order ID 119987

June-02-14 10:35:58 AM

**\*119987\***

Page 2

Item ID: D212-664-207

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Aft Crosstube - Low Standard

Stop **\*NS2\***

Start Date: 6/02/14 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 6/02/14 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130 QC15- Crosstube Dimensional Check

0.00

**\*130\***

QC

Memo

0.00

Quality Control

*DP 14-6-10*

140

0.00

**\*140\***

Crosstubes

Crosstubes

Memo

0.00

Crosstubes

\*\*\*\*\* ENSURE PROPER JIG POSITIONING \*\*\*\*\*

1-Drill Rivet holes as per Dwg D212-664-247 using DT8972.\*\*\*Use T-Pin\*\*\*

2-Drill pilot holes in tube as per Dwg D212-664-247 using DT8550 and DT8551

3-Ream hole to finish size in tube as per Dwg D212-664-247

4-\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-247

5-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-247

*JW 14-06-11*  
*JW 14-06-11*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube <input type="checkbox"/></td> <td style="width:15%;">Crosstube <input type="checkbox"/></td> <td style="width:15%;">Water Jet <input type="checkbox"/></td> <td style="width:15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--

# Work Order ID 119987

June-02-14 10:35:58 AM

**\*119987\***

Page 3

Item ID: D212-664-207

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Aft Crosstube - Low Standard

Stop

**\*NS2\***

Start Date: 6/02/14

Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 6/02/14

Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

150

QC5- Inspect part completeness to step on W/O

0.00

**\*150\***

QC

Memo

0.00

Quality Control

\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\*

160

0.00

**\*160\***

HandFXtube

Memo

0.00

Hand Finishing Crosstubes

\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\*

1- CLEAN CROSSTUBE WITH WASH'N WIPE

180

Outsource process - NDT per QSI038 4.1

0.00

**\*180\***

Outsource2

Memo

0.00

Outsource process - NDT

\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\*

Liquid Penetrant Inspection as per QSI 038  
Issue P/O: 24607 LPI as per ASTM 1417  
Level 2 Attach copy of NDT results to work order

68-6  
LZ  
DAS  
M/6/13

1 0 0 AL  
14-6-16

CL 14/06/16 (1)

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube <input type="checkbox"/></td> <td style="width:15%;">Crosstube <input type="checkbox"/></td> <td style="width:15%;">Water Jet <input type="checkbox"/></td> <td style="width:15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other
--	--	---	--

**Work Order ID 119987**

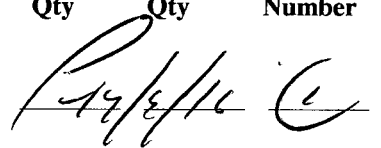
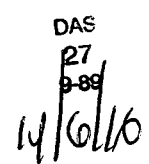
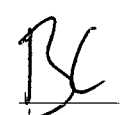
June-02-14 10:35:58 AM

**\*119987\***

Page 4

Item ID: D212-664-207 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Aft Crosstube - Low Standard  
Start Date: 6/02/14 Start Qty: 1.00 **\*1\*** Cust Item ID:  
Required Date: 6/02/14 Req'd Qty: 1.00 **\*1\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 <b>*190*</b> Packaging Packaging	Receive & Inspect for Damage & Mat'l Certs Packaging  Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***  Ensure copy of NDT results attached to work order.	0.00  0.00							
200 <b>*200*</b> QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***  Inspect for damage & ensure results are as per Dwg D212-664-207	0.00  0.00							
204 <b>*204*</b> HandFXtube Hand Finishing Crosstubes	Crosstubes Chemical Conversion  Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***  1- PRESSURE WASH AND THEN USE WASH'N WIPE TO CLEAN CROSSTUBE AND CUFF BEFORE CHEMICAL CONVERSION	0.00  0.00							 14-06-16

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Design											
Doc/Data											
Equip/Tooling											
Handling/Pre											
Material											
Operator											
Offset/Setup											
Process											
Supplier											
Training											
Transport											
Unapproved											

FAULT CATEGORY			
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other



June-02-14 10:35:58 AM

Page 5

exp 11/14

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--

# Work Order ID 119987

\*119987\*

Page 6

June 02-14 10:35:58 AM

Item ID: D212-664-207 Accept \*N900040100\* Setup Start \*NS1\*

Revision ID: Stop \*NS2\*

Item Name: Aft Crosstube - Low Standard

Start Date: 6/02/14 Start Qty: 1.00 \*1\*

Required Date: 6/02/14 Req'd Qty: 1.00 \*1\*

Reference: Cust Item ID: Customer:

Approvals: Process Plan: Date: Tooling: Date: Run Start \*NR1\*

QC: Date: SPC (Y/N): Date: Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID DAS	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
215	QC5- Inspect part completeness to step on W/O	0.00	16						
*215*			9-89						
QC	Memo	0.00	141.61 17						
Quality Control	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***								
	***Inspect cuff with T-Pin***								
220	Spray Painting per QSI005 4.2	0.00							
*220*	SprayPaint								
SprayPaint	Memo	0.00							
Spray Painting	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***								
	1-Prime inside and outside crosstube as per QSI 005 4.2								
	PRIMER: 128 826								
	START TIME: 6:30								
	FINISH TIME: 7:30								
	2-Paint outside crosstube with White Imron as per QSI 005 4.2								
	PAINT: 129 269								
	Start Time: 10:30								
	Finish Time: 11:00								

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_

Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design <input type="checkbox"/>									
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Handling/Pre <input type="checkbox"/>									
Material <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Offset/Setup <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Transport <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

**FAULT CATEGORY**

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		
<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		

# Work Order ID 119987

June-02-14 10:35:58 AM

\*119987\*

Page 7

Item ID: D212-664-207 Accept \*N9000040100\* Setup Start \*NS1\*

Revision ID:

Item Name: Aft Crosstube - Low Standard Stop \*NS2\*

Start Date: 6/02/14 Start Qty: 1.00 \*1\*

Required Date: 6/02/14 Req'd Qty: 1.00 \*1\*

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	QC14- Inspect Spray Paint	0.00							
*230*									
QC	Memo	0.00							
Quality Control	Wrap in plastic bag to protect from scratches								14-6-19
240		0.00							
*240*	Crosstubes								
Crosstubes	Memo	0.00							
Crosstubes	1- Assemble as per Dwg D212-664-247								14-6-19
	1- Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg								
	2- Install supports with Proseal 890 per D212-664-247 and QSI 015								
	A/R Proseal 890 Batch: 128638								
	EXP: 10/14								
	PROSEAL CURE TIME 72 HOURS:								
	Start: 14-6-19								
	Finish: 14-6-22								
	3- Install clamps with rubber cushion (ENSURE CLAMPS ARE INSTALL ON TOP SIDE OF CROSSTUBE) as per Dwg D212-664-247.								
	***Torque all clamps to 80-100 IN-LBS.***								

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_

Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

**FAULT CATEGORY**

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

# Work Order ID 119987

June-02-14 10:35:58 AM

**\*119987\***

Page 8

Item ID: D212-664-207

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Crosstube - Low Standard

Start Date: 6/02/14 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 6/02/14 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

250

QC5- Inspect part completeness to step on W/O

0.00

DAS  
27  
9-89

**\*250\***

0.00

14/6/24

QC

Memo

Quality Control

\*\*\*RE-CHECK TORQUE ON CLAMP AFTER PROSEAL HAS CURED  
FOR 72HOURS AS PER DWG.\*\*\*

255

Pick Kit

0.00

**\*255\***

0.00

Packaging

Memo

Packaging

DAS  
33  
9-89



260

QC4- 100% Inspect kits for completeness

0.00

**\*260\***

0.00

QC

Memo

Quality Control

DAS  
31  
9-89

14-07-01

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		
<input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		



June-02-14 10:35:58 AM

Page 9

**Accept**

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 6/02/14      **Start Qty:** 1.00      **\*1\***

**Cust Item ID:**

**Required Date:** 6/02/14      **Req'd Qty:** 1.00      **\*1\***

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

270

**\*270\***

### Packaging

## Packaging

## Packaging

## Memo

Identify and pack for shipping as per PPP D212-664-207

## Set Up/ Run Hours

0.00 66 093

0.00 (Leud)

**Tool ID****Tool #****Plan  
Code**

**Accept Qty**

Reject  
Qty

### Reject Number

**Insp.  
Stamp**

**DAS**  
**06**  
**8-89**

JUL 03 2014

280

**\*280\***

QC

## Quality Control

QC21- Final Inspection - Work Order Release

0.00

## Memo

0.00

MLJ    140704

MF  
14-7-03

# Picklist Print

June-02-14 10:36:01 AM

Page 1

Work Order ID: 119987

\*119987\*

Parent Item: D212-664-207

\*D212-664-207\*

Parent Item Name: Aft Crosstube - Low Standard

Start Date: 6/02/14

Required Date: 6/02/14

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 07.09.12 EC verified by: JLM  
 IPP Rev:B ECN 1100p 08-01-11 DD verified by: EC  
 IPP Rev:C ECN 1121 08-02-25 DD verified by: eC  
 IPP Rev: D QC5 replaced by QC15 at step 5 KJ Verified by: ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D212-664-207TRN		Manufactured	No			110	Each	2.0000	1	1			
-----------------	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

\*D212-664-207TRN\*

Crosstube Turning Detail

Location	Loc Qty	Loc Code
----------	---------	----------

LG	1	
109641	1	
LG014	1	
109642	1	
140	Each	12.0000

D3660-1		Manufactured	No			140	Each	12.0000	2				
---------	--	--------------	----	--	--	-----	------	---------	---	--	--	--	--

\*D3660-1\*

Cuff

Location	Loc Qty	Loc Code
----------	---------	----------

ST482	12	
109135	4	
113140	7	
95844	1	

CR3212-4-06		Purchased	No			220	Each	457.0000	44	44			
-------------	--	-----------	----	--	--	-----	------	----------	----	----	--	--	--

\*CR3212-4-06\*

RIVET

Location	Loc Qty	Loc Code
----------	---------	----------

ST328	168	
122141	168	
st552	289	
m127304	33	
m127831	256	

\*\*

\*\*

\*\*

(1) 14-06-11

(2) 14-06-11

14-6-16

(44)

# Picklist Print

June-02-14 10:36:01 AM

Page 2

Work Order ID: 119987

**\*119987\***

Parent Item: D212-664-207

**\*D212-664-207\***

Parent Item Name: Aft Crosstube - Low Standard

Start Date: 6/02/14

Required Date: 6/02/14

Start Qty: 1.00

Required Qty: 1.00

D3595-063-530

Manufactured No

240

Each

216.0000

4

4

**\*D3595-063-530\***

Rubber Cushion

**\*\***

*AS 14-6-19*

Location

Loc Qty

Loc Code

FG

5

82656

5

FP

6

111194

6

LG

2

110937

2

LG050

4

118829

4

LG051

132

113291

8

117571

124

ST412

67

113930

67

*(4)*

D2940-1

Manufactured No

240

Each

29.0000

2

2

**\*D2940-1\***

Support

**\*\***

*AS 14-6-19*

Location

Loc Qty

Loc Code

LG051

20

113887

8

116596

10

118826

2

LG052

9

103951

6

109042

3

*(2)*

# Picklist Print

June-02-14 10:36:01 AM

Page 3

Work Order ID: 119987

\*119987\*

Parent Item: D212-664-207

\*D212-664-207\*

Parent Item Name: Aft Crosstube - Low Standard

Start Date: 6/02/14

Required Date: 6/02/14

Start Qty: 1.00

Required Qty: 1.00

MS21920-28

Purchased

No

240

Each

173.0000

4

4

\*MS21920-28\*

Clamp

\*\*

14-6-19

Location

Loc Qty

Loc Code

FG

5

105884

5

LG050

164

M128363

1

M128717

4

M128771

69

M128772

15

M129279

75

Return2014

4

128717

4

D3428-1

Manufactured

No

255

Each

15.0000

1

1

\*D3428-1\*

Placard

\*\*

119695

DAS  
33  
9-89

DAS  
31  
9-89

Location

Loc Qty

Loc Code

ST042

15

107703

1

112604

12

115887

2

MS21042L6

Purchased

No

255

Each

301.0000

6

6

\*MS21042L6\*

Nut

\*\*

DAS  
33  
9-89

DAS  
31  
9-89

Location

Loc Qty

Loc Code

ST314

301

m127831

23

m128635

278

129635

June-02-14 10:36:01 AM

Shop Packet Print

Page 3

# Picklist Print

June-02-14 10:36:01 AM

Page 4

Work Order ID: 119987

**\*119987\***

Parent Item: D212-664-207

**\*D212-664-207\***

Parent Item Name: Aft Crosstube - Low Standard

Start Date: 6/02/14

Required Date: 6/02/14

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0663J

Purchased

No

255

Each

1,977.000

18

18

**\*NAS1149D0663.J\***

Washer

**\*\***

DAS

33

9-89

DAS  
31  
9-89

Location

Loc Qty

Loc Code

ST294

7

123265

4

M126284

3

ST510a

1970

M126334

699

M127813

35

M127916

236

M128818

1000

128818

AN6-40A

Purchased

No

255

Each

83.0000

4

4

**\*AN6-40A\***

Bolt

**\*\***

DAS

33

9-89

DAS  
31  
9-89

Location

Loc Qty

Loc Code

st503

75

M128634

75

ST504

8

M128403

8

128634

AN6-41A

Purchased

No

255

Each

70.0000

2

2

**\*AN6-41A\***

Bolt

**\*\***

DAS

33

9-89

DAS  
31  
9-89

Location

Loc Qty

Loc Code

ST340

4

M126180

4

ST504

66

M128398

16

M128849

50

128398

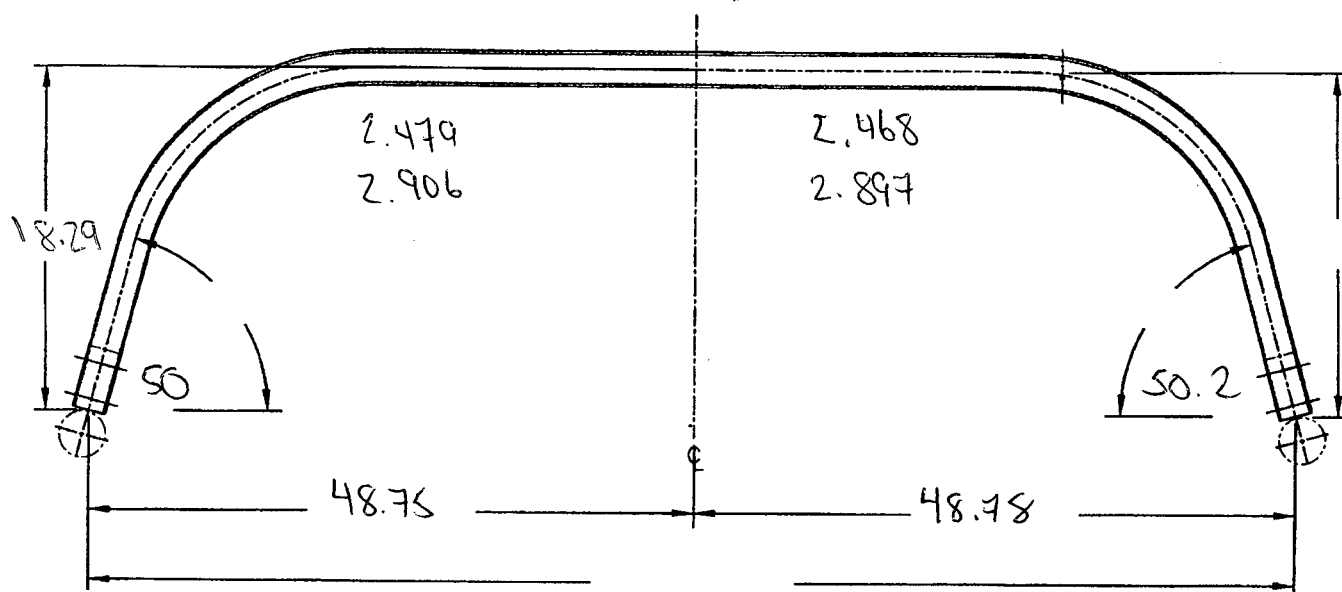
June-02-14 10:36:02 AM

Shop Packet Print

Page 4

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	119987
<b>Description:</b> Crosstube Low Aft (205/212)		<b>Part Number:</b>	D212-664-207
<b>Inspection Dwg:</b> D212-664-247	<b>Rev:</b> <del>B</del> C		<b>Page 1 of 1</b>

Required Dimension	Min	Max
Height	18.16	18.42
1/2 Span	48.55	48.81
Angle	49	52
Total Span	97.1	97.62
Bending Passes	8	--
Crushing	--	6% / 10%



	Side A	Middle	Side B
Bending Passes	22	15	19
Crushing	7.9%		8%
Comments			

QC15 Inspection	14-6-10
Date	

Rev	Date	Change	Revised by	Approved
A	08.02.29	New Issue	KJ/JM	
B	10.04.01	Dwg Rev updated	KJ	
C	12.04.16	Added bending, crushing dimensions	KJ	

Item	Qty -247	Qty -247B	Part Number	Description
1	X		D212-664-247	CROSSTUBE ASSEMBLY (205/212 LOW AFT)
2		X	D212-664-247B	CROSSTUBE ASSEMBLY (214 LOW AFT)
3	1	1	D6008-132	CROSSTUBE
4	2		D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	2	2	D3660-1	CUFF
7		2	D5018-1	SUPPORT
8	4	4	MS21920-28	CLAMP (OR MS21920-30)
9	44	44	CR3212-4-06	RIVET (OR M7885/3-4-06)
10	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2
11	A/R	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6008-132  
FINISHED LENGTH = 128.288±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-247/-247B = 36.6 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

#### MACHINING

- 10) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.

#### BENDING

- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

#### ASSEMBLY

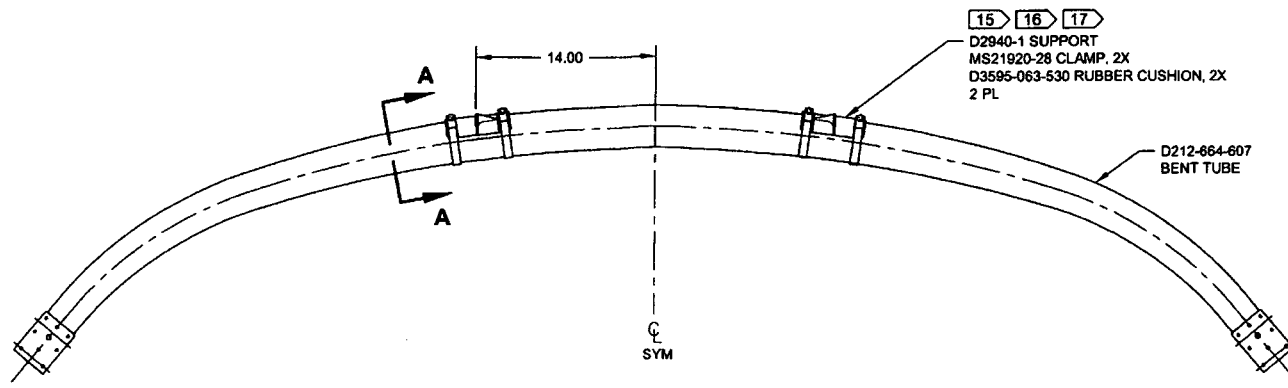
- 13) INSTALL D3660-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 14) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.
- 15) TO INSTALL D2940-1 / D5018-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 16) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF SUPPORT.
- 17) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

SHOP COPY  
RETURN TO:  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 119987 MJS

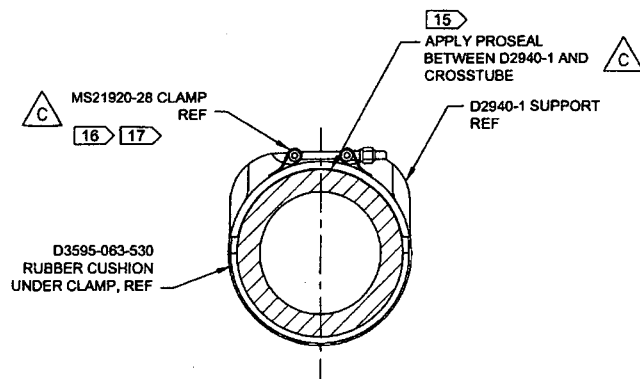
14-06-02

RELEASED  
2014-05-26

C	D5018-1 WAS D2940-1 (-247B). PROSEAL WAS MAGNOBOND, ADD SHEET 3, NOTE 17: ADD 72HR CURE & RETORQUE. CLAMPS REVERSED TO PREVENT CHAFING (ZN B7-2, B7-3). INCORP. DEO B-1	CP	14.04.01
B	REVISE GENERAL NOTES/PART LIST: UPDATE TO CURRENT STANDARDS; ADD -247B (ZN C4-2, D5-2)	RF	09.09.30
A	NEW ISSUE	CP	07.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	Q	DART AEROSPACE LTD	
DRAWN	Q	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DW	DRAWING NO.	REV. C
MFG. APPR.	M	D212-664-247	SHEET 1 OF 5
APPROVED	#	TITLE	SCALE
DE APPR.	#	CROSSTUBE (205/212 LOW AFT)	NTS
DATE	14.04.01	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



**D212-664-247**  
**ASSEMBLY DETAIL**

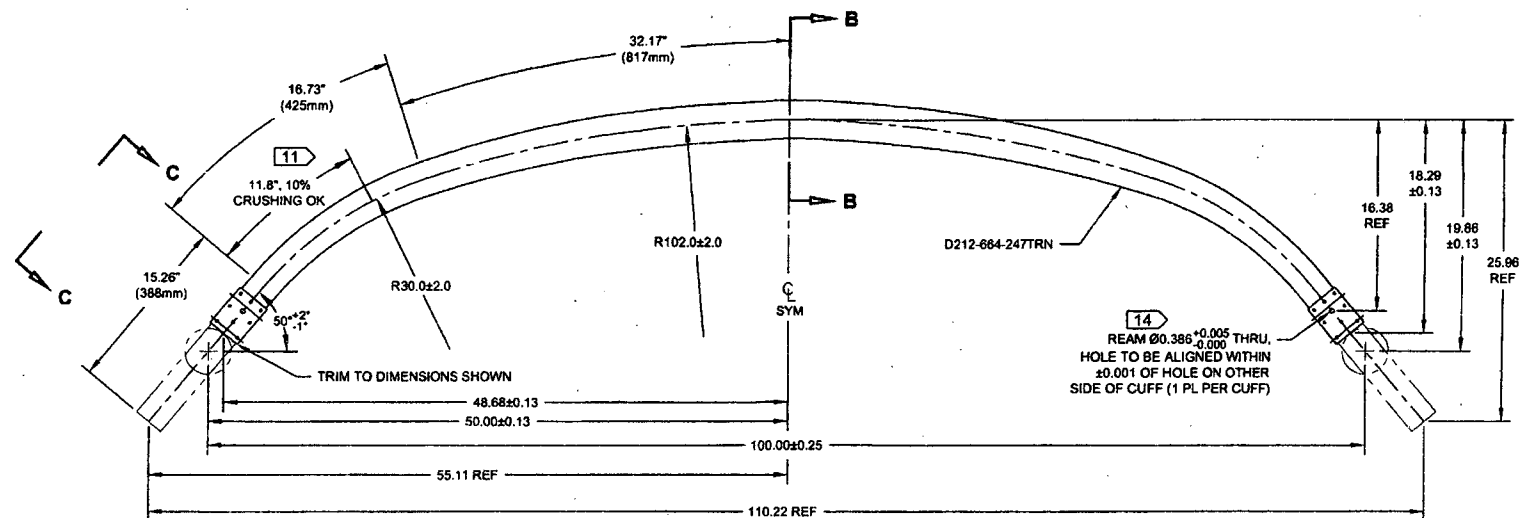


**SECTION A-A**  
**SCALE 4X**

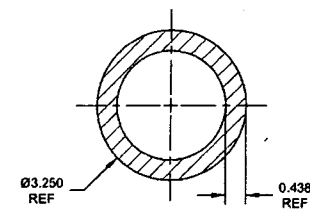
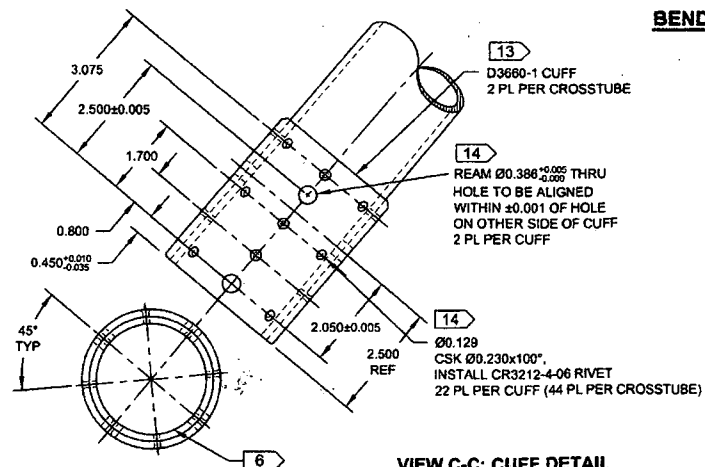
**RELEASED**  
2014-05-26

DESIGN	92	<b>DART AEROSPACE LTD</b>	
DRAWN	92	HAWKESBURY, ONTARIO, CANADA	
CHECKED	92	DRAWING NO.	REV. C
MFG. APPR.		D212-664-247	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE (205/212 LOW AFT)	NTS
DATE	14.04.01	<small>COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR TRANSMITTED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	





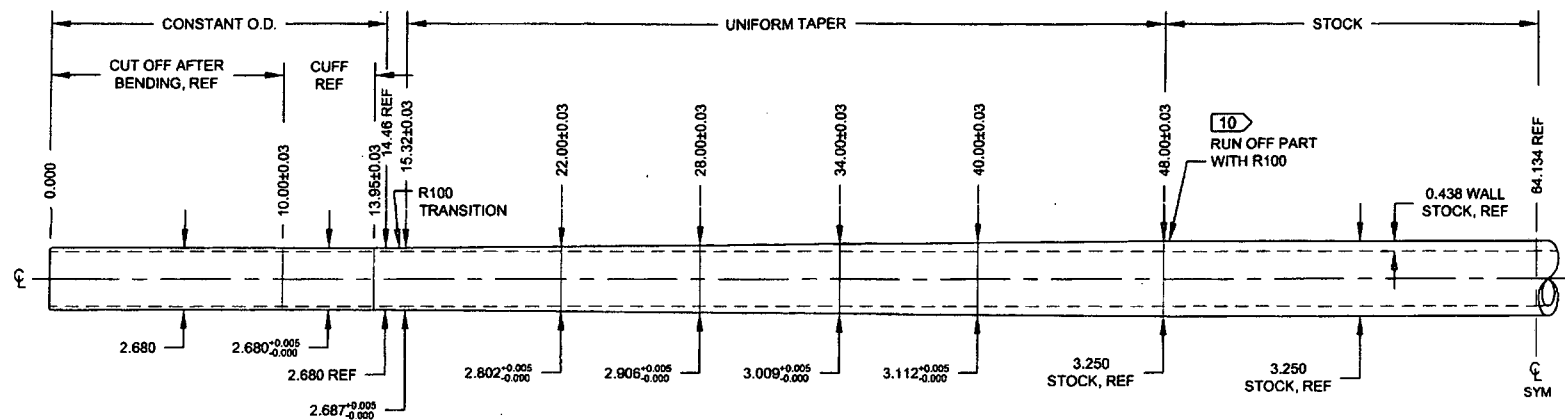
**D212-664-607**  
**BENDING AND DRILLING DETAIL**



**SECTION B-B**  
SCALE 4X

**RELEASED**  
2014-05-26

DESIGN	<i>JP</i>	<b>DART AEROSPACE LTD</b>	
DRAWN	<i>JP</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>JP</i>	DRAWING NO. D212-664-247	REV. C
MFG. APPR.	<i>JP</i>		SHEET 4 OF 5
APPROVED	<i>JP</i>	TITLE CROSSTUBE (205/212 LOW AFT)	SCALE NTS
DE APPR.	<i>JP</i>		
DATE	14.04.01	<small>COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



**D212-664-247TRN**  
**TURNING DETAIL**

**RELEASED**  
 2014-05-26

DESIGN	g	<b>DART AEROSPACE LTD</b>	
DRAWN	g	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DW	DRAWING NO.	REV. C
MFG. APPR.	MD	D212-664-247	SHEET 5 OF 5
APPROVED	MD	TITLE	SCALE
DE APPR.	MD	CROSSTUBE (205/212 LOW AFT)	NTS
DATE	14.04.01	<small>COPYRIGHT © 2007 BY DART AEROSPACE LTD          THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR FOR THE DISSEMINATION TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



212-664-247 bending folio

**BEFORE BENDING ... THERE CANOT BE ANY CIRCUMFERENTIAL MARKS ON THE TUBE WHERE THE TANGENT LINES 32 & 35 ARE.....USE LOTS OF CAUTION ON THE DOWN TAPER PROGRAMS (THAT'S WHERE THEY'VE BEEN EXPLODING)**

**SIDE BENDS MUST BE BENT WITH THE SLUG ALONG WITH THE 3/8" SPACER.**

-3.25 rollers x 3 1.6 shims not required  
-buggie "A" shims 2.06" on cuff and buggie "B" shims 1.85"  
-lines- 15.25", 32" and 35" from cuff and then center line.

**middle bend**

Run 212-247--- m1-m2-m3-m4-m5 without stopping, starting from 32" tangent line with longest part of tube on large table using Buggy "A" only . Check.  
Approach Y 2800 & W 2800

**side bends step 1**

**DO NOT FORGET THE SLUG**

Run 212-247 ---PROGRAM 00DT TO 08DT from 35" line , then, right away run 1UT to 8UT from 15.25" line **BE CAUTIOUS WITH THE APPROACH FOR 1UT**, FLIP do side B the same  
Approach Y 1930 & W 3730

Large table , Place Buggy "B" aprox 12" from 35" tangent line

**USE CAUTION WITH THESE PROGRAMS.....**

**side bends step 2**

Run 212-247 UT9 to UT9f to finish CHECKING between EACH prog starting at 15.25" tangent line. using Buggy "A" and Buggy "B" , These programs run up taper , only the X goes up on these programs.

**APPROACH ---- Y 3730 & W 3010 FOR 1UT , Y 3730 & W 3060 FOR 2UT , Y 3730 & W 3075 FOR ALL PROGRAMS 3UT & UP.**

**notes:**

09-07-21 we had one tube explode with a batch number of B-38340 ....

11/11/1 pay strict attention to midde program 7 if it must be run. for some reason it ran approx 4 inches pas the finishing tangent line. problem has not been found yet. jw

12/9/19 if middle program puts the tube PAST the reference line for the middle, STOP at program ut6 and check instead of running all the way to ut8, this has been a consistent problem, if middle passes reference line ut8 WILL overbend the tube. JW

DTA	M1	DTA
1	2	1
2	3	2
3	4	3
4	5	4
5	6	5
6	7	6
7	7	7
8		8
ut1		ut1
ut2		ut2
3		3
4		4
5		5
6		6
7		7
8		8
ut9		ut9
ut9A		ut9A

0007

10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044

112

2-11-71

**skyservice****Work Order Traveler**  
Sky Service F.B.O. Inc.

Page: 1 of 1






DOT APP 53-89 / EASA 145.7142 / BDA AMO 385

WO#: MWO20441	Customer: Cash Sale	Dept: NDT YUL	Reference: 24607
Descr:	PN: DART AEROSPACE	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN: 0	CSN: 0	TSO: 0	

Task:	Sequence: 0
-------	-------------

**Work Required:**

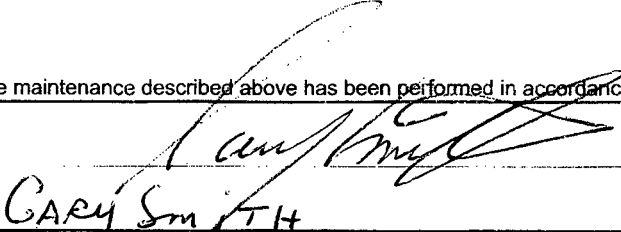

- ① W.O. ID # 120840 ITEM: ~~D212~~ D212-664-107 FWD CROSS TUBE LOW
- ② W.O. ID # 120841 ITEM: D212-664-107 FWD CROSS TUBE LOW
- ③ W.O. ID # 117201 ITEM: D212-664-207 AFT CROSS TUBE LOW
- ④ W.O. ID # 119987 ITEM: D212-664-207 AFT CROSS TUBE LOW
- ⑤ W.O. ID # 116515 ITEM: D4807-041 SUPPORT ASSY QTY 2
- CARRY OUT NDT ON ITEMS LISTED ABOVE

Action Taken:	Date:	Initial/Stamp:
① W.O. ID # 120840 No CRACKS FOUND	16 JUN 14	
② W.O. ID # 120841 No CRACKS FOUND	16 JUN 14	
③ W.O. ID # 117201 No CRACKS FOUND	16 JUN 14	
④ W.O. ID # 119987 No CRACKS FOUND	16 JUN 14	
⑤ W.O. ID # 116515 No CRACKS FOUND	16 JUN 14	

LIQUID PENETRANT INSPECTION IAW ASTM E1417-M13 AND  
HIGH FREQUENCY EDDY CURRENT CARRIED OUT ON ALL  
ITEM LISTED ABOVE

Description	Location	P/N	Qty	Batch	S/N Off	S/N On
LPI	AR DROX	970 P25E		02312131		
BLACK LIGHT		T-20990N				
EDDY CURRENT	NORTEC	500S		S/N T20656	CAL DAE	305AN201S

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: 16 JUN 2014
Name: GARY SMITH		

